



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,302	04/24/2001	Eric Pierre de Rouffignac	5659-08200/EBM	4731

7590 10/21/2004

Eric B. Meyertons
DEL CHRISTENSEN
SHELL OIL COMPANY
P.O. BOX 2463
HOUSTON, TX 77252-2463

EXAMINER

KRECK, JOHN J

ART UNIT	PAPER NUMBER
----------	--------------

3673

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/841,302

Applicant(s)

ROUFFIGNAC ET AL.

Examiner

John Kreck

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 4091-4093, 4095-4110, 4112-4123, 4125, 4126, 4128-4170 and 5396-5409 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) 4107-4110, 4112, 4123, 4125, 4126, 4128-4170 and 5396-5409 is/are allowed.

6) ☒ Claim(s) 4091, 4093 and 4095-4106 is/are rejected.

7) ☒ Claim(s) 4092 is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 8/16/04 has been entered.
2. The indicated allowability of claims 4091, 4093, 4095-4106 is withdrawn in view of the rejection set forth below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4091, 4093, 4095, 4097, 4098-4106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (U.S. Patent number 3,680,633) in view of Gregoli, et al. (U.S. Patent number 6,016,867).

Art Unit: 3673

Bennett teaches the heater disposed in an open wellbore; and the system configured to allow heat to transfer and to maintain temperature. Bennett fails to teach the system configured to provide H₂.

Gregoli teaches a similar system; which is configured to provide H₂; in order to upgrade hydrocarbons in situ.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Bennett system to be configured to provide H₂ as called for in claim 4091; in order to upgrade hydrocarbons in situ.

Bennett teaches the electric heater as called for in claim 4093.

Bennett teaches the flameless combustor as called for in claim 4095.

With regards to claim 4097; wellbores are commonly at least 5 cm; and it would have been obvious to one of ordinary skill in the art at the time of the invention to have made the bore at least 5cm, in order to allow for greater production rates.

Bennett teaches the overburden casing as called for in claim 4098.

With regards to claims 4099-4103: Bennett is silent regarding the cement, packing material, and steel; however these are well known in the art. It would have been further obvious to one of ordinary skill in the art at the time of the invention to have modified the Bennett system to have included steel casing as called for in claim 4099, since steel is inexpensive and durable. It would have been further obvious to one of ordinary skill in the art at the time of the invention to have modified the Bennett system to have included cement as called for in claim 4100, since cement provides a firm anchor for casing. It would have been further obvious to one of ordinary skill in the art at

Art Unit: 3673

the time of the invention to have modified the Bennett system to have included packing material (cement) as called for in claims 4101-4103, since cement provides a firm anchor for casing.

Bennett also teaches the system configured to transfer heat as called for in claim 4104.

Bennett also teaches valve as called for in claim 4105.

Gregoli teaches the valve coupled to the production well as called for in claim 4106.

4. Claims 4091 and 4096 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry (U.S. Patent number 4,089,372) in view of Gregoli.

Terry teaches the system including one or more heaters disposed in open wellbores; the system configured to allow heat to transfer and to maintain temperature.

Terry fails to teach the system configured to provide H₂.

Gregoli teaches a similar system; which is configured to provide H₂; in order to upgrade hydrocarbons in situ.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry system to be configured to provide H₂ as called for in claim 4091; in order to upgrade hydrocarbons in situ.

Terry also teaches the natural distributed combustor as called for in claim 4096

Allowable Subject Matter

5. Claim 4092 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. Claims 4107-4110, 4112-4123, 4125, 4126, 4128-4170, and 5396-5409 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is (703)308-2725. The examiner can normally be reached on M-F 5:30 am - 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703)308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John Kreck

**JOHN KRECK
PRIMARY EXAMINER**